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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,855	05/28/2003	Ronald Joseph Van Laar		6463
36953	7590	07/27/2004		
RONALD J. VAN LAAR 2624 CITRONELLA COURT SIMI VALLEY, CA 93063			EXAMINER HAN, JASON	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/602,855	VAN LAAR ET AL.	
	Examiner	Art Unit	
	Jason M Han	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/28/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 1,4,5,8-10,13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 May 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Please resubmit references cited on form PTO-1449.

Drawings

2. The drawings are objected to because Figure 1, Drawing Element 90 is listed as an "X-Y axis Tilt Sensor," but described in the specification as a "multiple axis (axes?) accelerometer". Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute

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the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

Applicant is advised of the availability of the publication "Attorneys and Agents Registered to Practice Before the U.S. Patent and Trademark Office." This publication is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

4. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed

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150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

7. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
DEVELOPMENT.

(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT
DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37
CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more
than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).
"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

8. To assist in proper presentation: the content of specification has been provided below:

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were

permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
- (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

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- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

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- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

9. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. New application papers with lines double spaced on good quality paper are required.

10. The disclosure is objected to because of the following informalities:

11. Page 1, Line 3: inventor field is unnecessary and should be removed.

12. Page 1, Lines 5 – 36: an Information Disclosure Statement form (PTO-1449) has been attached. Please fill out and resubmit to the Office.

13. Page 2, Lines 1-2: not applicable and may be left out of disclosure.

14. Grammatically incorrect throughout entire application, please consider revising. Below are just a few examples found in the beginning and is by no means exhaustive or comprehensive:

- (a) Page 2, Lines 6-7: consider appropriate sentence structure and better wording
- (b) Page 2, Line 6: "Self illuminated"
- (c) Page 2, Line 7: "LED's" should read as "LEDs"
- (d) Page 2, Line 7: "Lamps" should not be capitalized
- (e) Page 2, Line 8: "electro-luminesceing" should read as "electro-luminescent"
- (f) Page 2, Line 9: "micro computer" should read as one word
- (g) Page 2, Line 10: "Automatic safety helmet" is not an appropriate reference/title
- (h) Page 2, Line 17: "it's" should read as "its"

Appropriate correction is required throughout the remaining application. Please consider consultation for grammar, semantics, and syntax. In addition, consistency in terminology/language is lacking throughout.

Claim Objections

15. Claim 1 is objected to because of the following informalities:

- (a) Line 2 of claim: "micro- computer" should read as "microcomputer."
- (b) Line 3 of claim: "elimination" should read as "illumination"

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- (c) Line 4 of claim: please be specific in limitation and refrain from intended use language ("is used").
- (d) Line 6 of claim: "ambiance" should read as "ambient".
- (e) Line 8 of claim: note the double bullet "d".
- (f) Lines 8-10 of claim: consider revising and clarifying.
- (g) Line 9 of claim: "EL-lamps" should read as "EL lamps".

Appropriate correction is required. The list above is not exhaustive and further grammatical errors occur throughout the claims. Note that a claim should be written in one sentence form only where it begins with a capital letter and ends with only one period. Please remove the periods at the end of each bullet and replace it with a semicolon.

16. Claim 4 is objected to because of the following informalities: 'or equivalent' is indefinite language. Please elucidate or remove from sentence.

17. Claim 5 is objected to for not being in one sentence format. Please add a period at the end of the sentence.

18. Claims 8 and 9 are objected to because of the following informalities: said illumination output elements uses inconsistent language and contrasts with said electroluminescent lamp found in claim 1. It is under the suggestion of the examiner to change the claim 1 limitation to incorporate a broader range, so that 'light emitting diodes or arrays of light emitting diodes' may be claimed. Please clarify as to what you're claiming. It is under further assumption of the examiner that you are referring to a light source found in the helmet. If so, please note this limitation in claim 1.

19. Claim 9 is further objected to because of the following informalities: please clarify as to the limitation, 'organic phosphor.' Are the illumination output elements made of an organic phosphor or are they organic phosphor (which seems unreasonable)? Please be explicitly clear in defining the limitation.

20. Regarding claim 10, the phrase "i.e. EL-lamps and LEDs" renders the claim indefinite because it is unclear whether the limitation following the phrase is part of the claimed invention.

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See MPEP § 2173.05(d). Please be specific as to what is claimed - the limitation, 'multiple elements of mixed types', is indefinite.

21. Claims 13 and 14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, and cannot depend from any other multiple dependent claim. Accordingly, the claims have not been further treated on the merits. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

22. Claim 6 recites the limitation "tilt sensor" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. The claim is also broadly defined with the words "including but not limited to". In addition, please use consistent language throughout the application.

23. Claim 11 recites the limitation "multiple lighting elements" in lines 1 and 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

24. Claim 12 recites the limitation "batteries" in line 1 of claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 1, 2, 5, 7, 8, 10, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien in view of Nickols.

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Chien discloses a headware, such as a helmet [Figure 5, Drawing Element 1], wherein a microprocessor is used to operate a control circuit for at least one illumination output element (electro-luminescent or photoluminescent) [Figure 5, Drawing Element 7]. Chien teaches that the control for said illumination output may be determined by a number of options, including a photo-, vibration-, tilt-, or motion-sensitive switch to automatically turn the light on and off [Column 9, Lines 27-42 and Figures 7-8]. Anyone familiar in the art would recognize that said accelerometer is inherently a vibration-, tilt-, or motion-sensitive switch [Baker, Column 6, Lines 40-45]. Chien does not disclose a specific algorithm, located in the ROM or flash memory of said microprocessor, to operate the control circuit.

Nickols, on the other hand, discloses a digital processing circuit wherein an algorithm is embodied in instruction codes stored in memory (ROM, PROM, EPROM, flash RAM, battery packed RAM) and executed by the microprocessor/microcontroller [Column 4, Line 61 – Column 5, Line 39; Figure 3, Drawing Element 10; Figure 4].

26. With regards to claim 1, it would have been obvious to modify Chien to include an algorithm located in the ROM or flash memory to operate said control circuit of the illumination output element as taught by Nickols. By storing said algorithm/control parameters in ROM or flash, it provides a non-volatile form of memory that cannot be easily lost.

27. With regards to claim 2, Nickols teaches that the photo-sensor, described in Chien, may be a photo-diode [Column 8, Lines 30-35; Figure 2, Drawing Element 26].

28. With regards to claims 5, Chien discloses a vibration-, tilt-, or motion-sensitive switch [Column 9, Lines 36-42]. It would be obvious to anyone familiar in the art that said accelerometer is inherently a multi-axes vibration sensor. Accelerometers sense the inertial reaction of a proof mass for the purpose of measuring linear or angular acceleration [The IEEE Standard Dictionary of Electrical and Electronics Terms]. Therefore, it would be inherent to use a vibration sensor(s) to measure the dynamics [non-static] and act as said accelerometer.

29. With regards to claims 8, 10 and 11, Chien discloses the use of electro-luminescent/photoluminescent elements, LEDs, or a combination of different lighting embodiments [Figures 1-6, and 9]. Chien also provides various options for lighting (e.g. steady, flash,

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sequential, random), which may be further controlled by the input from the sensors [Column 9, Lines 27-42; Figure 7, Drawing Element 403; Figure 5, Drawing Element 7].

30. With regards to claims 7 and 12, Chien describes a power pack enclosed by an absorption layer that is conformed and adhered to a hard outer layer of the headwear [claim 1, column 9, lines 56-65 and claim 5, column 10, lines 11-14].

It also would have been obvious to modify Chien to include an algorithm as taught by Nickols to detect a battery-charging element for controlling the power level supplied to the load (illumination elements) [see ABSTRACT of Nickols].

31. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien in view of Nickols in further view of Matsumoto.

As described in Paragraph 26 above, Chien in view of Nickols discloses a photo-sensor, but not specifically a silicon photocell and a cadmium sulfide cell.

Those who are familiar in the art recognize a silicon photocell as a photo-electromotive means, which is used as a light-receiving element of a photo-sensing circuit. While cadmium sulfide is known to be used in a photo-conductive element, which provides a resistance value corresponding to the brightness of an incident light. It would have been obvious to modify Chien in view of Nickols to include a silicon photocell and a cadmium sulfide cell to function as a photo-sensor as taught by Matsumoto [Claims 3-4, Column 7, Lines 13-16; Figure 3, Drawing Elements 5-6].

32. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chien in view of Nickols in further view of Dresner.

As described in Paragraph 26 above, Chien in view of Nickols discloses an illumination output element, but not specifically one comprising of organic phosphor.

It would have been obvious to modify Chien in view of Nickols to include illumination output elements comprising of organic phosphor as taught by Dresner [see SUMMARY OF THE INVENTION]. Those familiar in the art recognize that an organic phosphor composition will provide a light with longer life, improved brightness, and efficiency.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to the current application:

U.S. Patent No. 5416675 to DeBeaux

U.S. Patent No. 6030089 to Parker

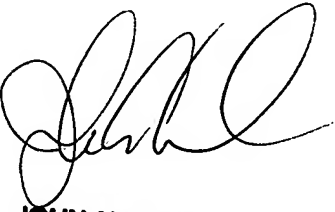
U.S. Patent No. 6348859 to Baker

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH



**JOHN ANTHONY WARD
PRIMARY EXAMINER**